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## News Release

### Defense Advanced Research Projects Agency

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IMMEDIATE RELEASE

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#### **UCAV NAMED *BEST OF WHAT'S NEW*, COMPLETES LOW SPEED TAXI TESTS**

*Popular Science* magazine's 14<sup>th</sup> annual *Best of What's New* issue (December 2001) recognized the Defense Advanced Research Projects Agency (DARPA)/Air Force Unmanned Combat Air Vehicle (UCAV) system as one of the world's most interesting and noteworthy breakthrough products and technologies. UCAV received the grand prize in the aviation and space category for representing a significant step forward in the field of aviation and for saving human lives by keeping pilots out of harm's way.

"The unique partnership among DARPA, the Air Force and Boeing on this program is helping to push back the frontiers of unmanned systems and provide more effective and affordable tools for the warfighter," said Col. Michael Leahy, USAF, DARPA/Air Force UCAV program manager. "I'm happy to hear that *Popular Science* recognizes the importance of this program to the future of our country."

The honor comes to the UCAV program as the X-45A aircraft is undergoing taxi testing in preparation for its first flight during the first half of next year. Initial low speed taxi testing, completed on November 2, confirmed the autonomous operation of the vehicle as well as its responsiveness to controller commands.

Additional taxi testing will occur during the next few months to verify that all functions are operational before first flight. Ground and flight-testing is done at NASA's Dryden Flight Research Center in California.

The X-45A demonstrator system consists of an air vehicle, mission control system and a storage container. The air vehicle has a stealthy, tailless, 27-foot long airframe with a 34-foot wingspan. It weighs 8,000 pounds (empty) and can carry a variety of precision strike munitions.

To demonstrate the technical feasibility and affordability benefits of the UCAV system, Boeing is drawing on its extensive experience and resources in the areas of manned strike aircraft; weapon systems technology; unmanned systems; and command, control, communications, computer, intelligence, surveillance and reconnaissance technology.

Boeing has produced two X-45A air vehicles, a mission control station and supportability elements for this phase of the program, the objective of which is to demonstrate that the two vehicles can actually perform a coordinated suppression of enemy air defenses mission.

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To perform such missions, multiple UCAVs will be equipped with preprogrammed objectives and preliminary targeting information by ground-based mission planners. This mission can then be carried out autonomously, but can also be managed interactively or revised en route by UCAV battle managers should new objectives or targeting information dictate. Exploring this synergy of man and machine is one of the key program objectives.

Advanced decision aiding and sophisticated operator interfaces will provide the battlefield situational awareness for up to four air vehicles to be controlled by one person at a reconfigurable mission control station. This station has robust and secure satellite-relay and line-of-site communications links for distributed control in all air combat situations.

After a mission, a UCAV can be easily dismantled and placed in a container for shipment elsewhere or storage up to ten years. Container interfaces allow for periodic maintenance monitoring and software updating of the vehicle inside, which can be reassembled and prepared for combat within an hour.

Because of their small size, lack of pilot interfaces and training requirements, reusability and long-term storage capability, UCAVs are projected to cost up to 65 percent less to produce than future manned fighter aircraft and up to 75 percent less to operate and maintain than current systems.

The UCAV demonstration program is being conducted under a \$191 million, 56-month cost-share agreement awarded to Boeing in March 1999 by DARPA and the Air Force. Boeing's share is \$21 million.

If this demonstration program is successful, the DoD could begin employing UCAV weapon systems as early as 2008.

The *Popular Science Best of What's New* issue is available on the Web at <http://www.popsci.com/bown/index.html>.

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